IN THE SPECIFICATION:

At page 10, line 16 please replace "from of the" with –from the—

In line two of page 11, please replace ", the" with --. The--.

In line two of pate 11, please replace "126" with –120--.

IN THE CLAIMS:

3. (Amended) A method as set forth in Claim 2, wherein said step of forming a Bose-Einstein condensate comprises providing [a multiplicity of] bosons.

4. (Amended) A method as set forth in Claim 3, wherein said step of providing [a multiplicity of] bosons comprises providing ^{4}He.

51. (Amended) A method as set forth in Claim 48, wherein said step of exposing comprises exposing the co-located atoms to energy [sufficient] to achieve fusion.

52. (Amended) A method as set forth in Claim 48, wherein said step of exposing comprises exposing the co-located atoms to energy [sufficient] to de-condense at least some of said co-located atoms so as to achieve fusion.

[52] 53. (Amended) A method as set forth in Claim 48, wherein said co-located atoms are fused in a reaction chamber [54] and said step of harnessing comprises using an energy flux from said reaction chamber.

REMARKS

This application has been carefully reviewed in light of the Examiner's Action dated July 5, 2000. Certain claims have been amended to omit language objected to by the Examiner. Reconsideration and full allowance are respectfully requested.

The Examiner objected to the drawings because they lacked a reference 1 mentioned in the description. In response to this objection, Applicant is submitting an amended drawing

herewith. In addition, the Examiner objected to the specification because of a number of typographical errors. Appropriate amendments have been made above.

The Examiner has also objected to the specification under 37 C.F.R § 1.71 based on lack of enablement and written description. The Examiner also made corresponding claim rejections under 35 U.S.C. § 112. With regard to the description objection, controlling authority holds that "original claims constitute their own description." In re Koller, 613 F2nd 819, 823-24, 204 U.S.P.Q. 702, 706(C.C.P.A. 1980). Accordingly, a rejection of original claims based on the description requirement of 35 U.S.C. § 112 is improper. Any provision of the C.F.R. purporting to establish a description requirement inconsistent with this statutory provision would be without legal effect. Accordingly, Applicant respectfully submits that the Examiner's objection and corresponding claim rejection based on the description requirement are improper and should be withdrawn.

With regard to enablement, Applicant respectfully submits that the disclosure in this case is enabling and that the Examiner has failed to establish a *prima facie* case of non-enablement. In the former regard, Applicant notes that the enablement standard does not require that patent application be complete production documents. Indeed the statute specifically tolerates disclosures that require some experimentation. The test of enablement is whether one reasonably skilled in the art could make or use the invention from the disclosure in the patent coupled with information known in the art without undue experimentation.

In this case, Applicant respectfully submits that the disclosure is enabling. Applicant has disclosed specific Bose-Einstein Condensate compositions. As the Examiner has noted, such condensates are well-known and information regarding the same can be easily obtained over the Internet as well as in technical journals. Applicant has also disclosed specific implementations

for compressing the Bose-Einstein Condensate even including particular types of lasers and specific configurations for using multiple lasers to compress the condensate. Moreover, Applicant has disclosed specific reactor configurations and specific embodiments for harnessing and using the resulting fusion energy.

Moreover, patent applications are directed to one skilled in the art. In this case, Applicant respectfully submits that scientists working in fields relating to Bose-Einstein Condensates and high-energy lasers have substantial knowledge that would enable such scientists to practice the claimed invention based on the teachings of the present specification. According, Applicant respectfully submits that the enablement rejection should be withdrawn.

Applicant further submits that the Examiner has failed to establish a *prima facie* case of non-enablement. It is well established that the PTO bears the initial burden of setting forth a reasonable explanation as to why it believes that the scope of protection provided by a claim is not adequately enabled by the description of the invention provided in the specification. As discussed in more detail below, the Examiner has not cited any authority that addresses the subject matter of the present invention and casts doubt on the assertions of the specification. The Examiner's skepticism appears to be based on the absence of commercially viable fusion energy in the current marketplace. However, this is not an appropriate standard. Absent evidence produced by the Examiner to dispute the assertions of the specification, a *prima facie* case of non-enablement is not established and it is therefore unnecessary for Applicant to present evidence of enablement.

The Examiner also rejected the pending claims under 35 U.S.C. § 101 as lacking utility. Applicant respectfully submits that the Examiner has failed to establish a *prima facie* case of non-utility. The case law in this area distinguishes between inventions that on their face appear

to violate a law of nature and those that do not. See, Chilowsky, 229 F2nd 457, 462, 108 U.S.P.Q. 321(C.C.P.A. 1956). In cases where a law of nature is violated, such as perpetual motion machines, a presumption of inoperativeness applies. However, in cases where the invention conforms to the known laws of physics and chemistry, operativeness is not questioned and no further evidence is required.

In this case, Examiner does not, and cannot reasonably question that fusion energy comports with the laws of physics. Similarly, the Examiner does not assert that Bose-Einstein Condensates fail to conform to the known laws of physics and chemistry. The Examiner further does not question that high-energy lasers of the type described in the application exist and can be used to exert a compressive force. The Examiner does not even appear to assert that the resulting utility as described in the application violates any laws of nature. Rather, the Examiner merely asserts, without any evidence or technical support, that the invention wouldn't work or is not proved by Applicant. However, absent a reasonable assertion by the Examiner supported by evidence that the invention does not work or violates a law of nature, the Examiner has failed to establish a *prima facie* case of non-utility. Accordingly, proof of operativeness is not required. Applicant therefore respectfully submits that this rejection should be withdrawn.

The Examiner states that "there is no convincing evidence that the phenomenon attributed to Bose-Einstein Condensate fusion would produce useful sources of energy". As noted above, such convincing evidence is not required. In an apparent attempt to establish a *prima facie* case of non-operativeness, the Examiner references a website talking about the BASER. However, the BASER is not the subject of the present invention. According to the website cited by the Examiner, the BASER is cited for use in treating nuclear waste. If the Examiner believes that the cited website or any other source of information casts doubt on the

assertions of the present invention regarding fusion by compressing co-located bosons, Applicant respectfully requests that the Examiner specifically discuss such information. Applicant does not see that the cited website discusses fusion by compressing co-located bosons.

The Examiner also rejected the claims under 35 U.S.C. § 102(b) and/or 35 U.S.C. § 103(a) as being unpatentable over various publications by Lo. Applicant respectfully submits that each of these patents deals with generating a coherent boson beam and/or the initiation of nuclear fusion reactions by a laser pulse focused on cluster beams. Applicant respectfully submits that Lo does not disclose subject matter relating to compressing co-located bosons or obtaining energy thereby as claimed.

A sincere effort has been made to place this application in condition for full allowance. Early notice of such allowance is respectfully requested. The Examiner is invited to contact the undersigned attorney to facilitate prosecution and allowance of this application.

Respectfully submitted,

MARSH FISCHMANN & BREYFOGLE, LLP

By: Kent A Fischmann

Kent A. Fischmann, Esq.
Registration No. 35,511
3151 South Vaughn Way, Suite 411
Aurora, Colorado 80014
(303) 338-0997

Date: Dec. 5, 2000